

REMARKS

The present application contains claims 1-89. Claims 71-89 are new. Claim 71 finds support at least on page 4, lines 12-14. Claims 72-76 and 82 find support at least on page 2, lines 1-2 and/or on page 23, lines 1-5. Claim 77 finds support at least on page 2, line 32. Claim 78 finds support at least on page 3, lines 25-26 and/or on page 23 lines 16-26. Claim 79 finds support at least on page 20, line 27. Claim 80 finds support at least on page 23, lines 18-20. Claim 81 finds support at least on page 21, lines 15-20 and/or on page 26. Claims 83 and 85-89 find support at least on page 2, lines 6-9. Claim 84 finds support at least on page 15, lines 3-4.

Claims 1, 7, 13, 16, 33-37, 59 and 70 were amended. Claims 7, 13, 16, 33-37 and 59 were amended for clarity and not in view of the prior art. The amendments to claims 1 and 70 are discussed below.

Claims 1-9, 11-18, 20-58, 60-63, 65, 66 and 68-70 stand rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/15317. Applicants respectfully disagree. In order to emphasize the difference between claim 1 and WO 98/15317, claim 1 was amended to require that the at least one electric field has a non-excitatory control effect independent of the transport effect, adapted to electrically control an activity of at least a part of a heart. This amendment emphasizes that the electrical field has two effects, a transport effect and an electrical effect.

In contrast, WO 98/15317 describes prior art devices which only deliver drugs and do not perform any electrical control of the heart (page 3, lines 20-24) and devices which perform only cardiac stimulation without molecule transport (page 3, lines 28-31). In the disclosure of the invention section, WO 98/15317 suggests implantable stimulation devices capable of delivering a substance to tissue (page 4, lines 16-18, page 8, lines 13-14). The stimulation devices are preferably cardiac pacemakers and defibrillators (page 4, lines 22-23), but may be muscular or neural stimulation devices (page 6, lines 1-3). All of these apply excitatory electrical signals.

WO 98/15317 does not teach or suggest an electric field having a non-excitatory control effect, adapted to electrically control an activity of at least a part of a heart. In fact, in WO 98/15317 the drugs are used to control the heart, i.e., to reduce the electric power threshold required for stimulation of the heart (page 4, lines 22-24, page 8, lines 18-21).

In the Examiner's rejection, the Examiner related to non-excitatory control effects related to drug delivery, not to electrical heart control effects. The Examiner also stated that the heart does not respond to pacing during a refractory period and therefore, the cardiac stimulation provided by WO 98/15317 would be non-excitatory. Applicants respectfully note that WO 98/15317 does not provide pacing during the refractory period and even if it would provide a pacing signal during the

refractory period, there is no suggestion that it would be adapted to have a control effect on the heart, as required by claim 1.

Applicant notes that examples of non-excitatory control signals appear in the present application on pages 25 and 26.

The dependent claims are patentable at least for their dependence on claim 1. It is noted, however, that at least some of the dependent claims, in addition to those indicated by the Examiner as being allowable, add further patentability over claim 1.

Claim 43, for example, requires that the control effect is selected to prevent an adverse effect of the transport pulse. Claim 44, for example, requires that the control effect is selected to prevent an adverse effect of the molecule. Claim 46, for example, requires that the control effect is selected to counteract an adverse effect of the molecule. Claim 47, for example, requires that the control effect is selected to prepare the tissue for the transport. Claim 48, for example, requires that the control effect is selected to extend a period of time suitable for provision of the molecule. None of these control effects are taught or suggested by WO 98/15317.

Claim 50, for example, requires inclusion of at least one transport electrode and at least one separate control electrode. In WO 98/15317, a single electrode is used for pacing and for drug transport.

New claim 71, for example, requires that the controller is not configured to apply excitatory electrical fields. In WO 98/15317, the whole purpose of the transport is to aid in the pacing. Therefore, WO 98/15317 does not teach or suggest a controller that is not configured to apply excitatory electrical fields.

Independent claim 70 was amended for clarity and in addition was amended to make explicit that the non-excitatory control effect is an electrical effect. Claim 70 requires applying at least one electric field having a non-excitatory electrical control effect for controlling the activity of at least a part of the heart. As discussed above, WO 98/15317 does not teach or suggest any such control affect.

New independent claims 75 and 82 require transporting a molecule within the tissue. This is not taught or suggested by WO 98/15317, which describes release of molecules from a reservoir and not transport within tissue. See, for example, page 1, line 5, page 5, lines 2-3, page 8, lines 5-10 and page 9, lines 6-9.

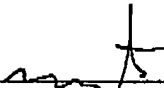
New independent claims 83 and 85 require transporting a molecule into or within electrically excitable tissue of a patient, without exciting the tissue of the patient. In WO

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98/15317, the release from the reservoir is inherently associated with the excitation and there is no suggestion to separate the transport from the excitation. See, for example, page 9, lines 10-18.

In view of the above comments and amendments, an allowance of all the claims is respectfully awaited. If the Examiner is unable to agree that the claims are patentable, but feels that a telephone conversation can aid in resolving issues in dispute, the Examiner is respectfully requested to contact the undersigned at toll free +1 (877) 428-5468. This number connects directly to our office in Israel. Please note that Israel is 7 hours ahead of Washington and that our work week is Sunday-Thursday.

Respectfully submitted,
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